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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,967	03/06/2006	Shuhei Nishiyama	404777.114911	1985
29540	7590	09/17/2007	EXAMINER	
DAY PITNEY LLP			HOTELLING, HAROLD A	
7 TIMES SQUARE			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/542,967	NISHIYAMA, SHUHEI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Harold A. Hotelling	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 July 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 - 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 - 14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 July 2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

This communication is in response to the application filed on July 21, 2005. The application has been examined. Claims 1 – 14, of which claim 1 is in independent form, are pending in this Office Action.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), claiming foreign priority to Japan Patent Office application number 2003-12545 (filed on January 21, 2003), which papers have been placed of record in the file.

### ***Objections***

#### **Abstract**

The applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," or "Disclosed is . . ." See MPEP 608.01(b).

#### **Claims**

Claims 1 and 2 are objected to because of the following informality:

Page 2, line 8 and line 23 recite "said computer . . ." There is insufficient antecedent basis for this limitation in the claim. The only previous mention of a

computer is “a plurality of computers” on page 1, line 10.

Appropriate correction is required.

### ***Status of Claims***

Claims 1 – 14 are rejected under 35 U.S.C. 102(b).

#### ***35 U.S.C. §102 rejection***

The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 14 (U.S. filing date: July 21, 2005) are rejected under 35 U.S.C. 102(b) as anticipated by Draper et al. (U.S. Patent number 5,924,096) (issued on July 13, 1999) (hereafter “Draper”). Draper incorporates by reference:

- U.S. Patent number 6,192,365 (hereafter “Draper365”)
- U.S. Patent number 5,991,771 (hereafter “Draper771”)

With respect to independent claim 1, Draper teaches **[a] distributed database system** (column 6, lines 15 – 16: “FIG. 5 illustrates several methods of the present invention for managing a distributed database of objects, . . .”) **comprising:**

**a database administration apparatus, which administers a database allocated on network** (column 3, lines 1 – 4: “The index can be used to efficiently

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create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.");

**a topology administration server for distributing database of said database administration apparatus** (column 11, lines 26 – 29: "the synchronization topology is a star with one master location such as the master system 602 acting as a synchronization hub for many replica locations such as the locations 608, 610."), and

**a plurality of computers** (column 8, lines 11 – 12: "The system 600 also includes two client caches 608, 610, which reside on clients 110."), which are **allocated in an administration domain administered on network by said topology administration server** (column 8, lines 3 – 5: "The system 600 includes a master system 602");

**wherein said topology administration server comprises:**

**storage for topology information, which stores topology information, including certain information correlating a database object identifier, which is information for identifying a database object administered by said database administration apparatus, with an identifier of a database administration apparatus for identifying a database administration apparatus administering the database object** (column 1, line 56 – 59: "One synchronization method sends a list of cached database object identifiers and corresponding timestamps or sequence numbers from the caching node to a master node which holds a master replica.");

**a receiver for a cache request, which receives a cache request including said database object identifier transmitted from at least one or more of said**

**computers for caching a database object identified by said database object identifiers** (this cache request is necessary for effecting the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”);

**an acquisition unit for an identifier of a database administration apparatus, which acquires a corresponding identifier of a database administration apparatus from said storage for topology information based on the database object identifier included in the cache request received by said receiver for a cache request** (acquiring this identifier is necessary for coordinating the two masters described in column 8, lines 3 – 5: “The system 600 includes a master system 602 denoted ‘A’ and a second master system 604 denoted ‘B’.”);

**a transferring unit for a cache request, which transfers said cache request to the database administration apparatus identified by the identifier of the database administration apparatus, in which said identifier is acquired by said acquisition unit for an identifier of a database administration apparatus** (this transfer is necessary to effect the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”);

**said computer comprises:**

**a transmitter for a cache request, which transfers a cache request** (this transfer is necessary to effect the division of tasks between caches described in column

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3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”),

**a receiver for a database object, which receives the database object returned in accordance with the transmission of the cache request by said transmitter for a cache request** (necessary to effect the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”); **and**

**a caching unit for a database object, which caches a database object received by the receiver for a database object** (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”); **and**

**said database administration apparatus comprises:**

**a receiver for a cache request, which receives the cache request transferred by the topology administration server** (column 8, lines 46 – 50: “a cache site 608 or 610 can send a request to the master system 602 or 604 to get a list of the most recent events that occurred on data items 202 since the last time the cache made an inquiry. The cache's request can specify the event types that should be returned.”), **and**

**a copy and transmission unit for a database object, which copies and transmits the database object in accordance with the cache request received by**

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**the receiver for a cache request** (column 8, lines 50 – 54: “This allows, for example, one cache to add data items 202 to the cache each time an add event occurs while another cache may only update data items 202 in the cache when a modify event occurs.”).

With respect to dependent claim 2, Draper teaches **[t]he distributed database system according to Claim 1,**

**wherein said computer comprises a program receiver, which receives a program for performing computation while referring to a database object cached in the caching unit for a database object** (a program for performing computation is necessary for effecting the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”).

With respect to dependent claim 3, Draper teaches **[t]he distributed database system according to Claim 1 or 2, wherein said computer comprises a detection unit for computational load, which detects the computational load thereof; and a transmitter for a cache request, which transmits a cache request based on the computational load detected by the detection unit for computational load** (column 11, lines 51 – 53: “The synchronizing step 528 may include a clash detecting step 530 to detect inconsistencies in the replicas that cannot be resolved simply by updating a data item's value.”).

With respect to dependent claim 4, Draper teaches **[t]he distributed database system according to Claim 1 or 2, wherein the transmitter for a cache request transmits a cache request upon starting a computer** (Draper365, column 14, lines 38 – 40: “merging location sets normally occurs when a computer new to the network starts up and merges into an existing location set.”).

With respect to dependent claim 5, Draper teaches **[t]he distributed database system according to Claim 1 or 2, wherein the cache request includes information relating to capacities and data types of database objects cacheable by the caching unit for a database object** (Draper365, column 35, lines 45 – 48: “Update objects are separated from one another to aid analysis during the update identifying step 100 and to reduce the effect of possible object size limitations.”).

With respect to dependent claim 6, Draper teaches **[t]he distributed database system according to Claim 1 or 2, wherein the cache request includes information relating to time slots during which the caching unit for a database object can cache a database object** (column 9, last line – column 10, line 2: “the system 600 allows synchronization intervals as frequent as every five seconds”).

With respect to dependent claim 7, Draper teaches **[t]he distributed database system according to Claim 1 or 2, wherein the cache request includes information relating to computational capacity of a computer** (column 8, lines 55 – 60: “The

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request from the cache 608, 610 to the master system 602, 604 can also specify the maximum number of events to return. Limiting the number of events is important because the cache may use a synchronization thread that allows its cache manager to process only a few events during each pass, thereby allowing CPU use by other processes.").

With respect to dependent claim 8, Draper teaches **[t]he distributed database system according to Claim 1 or 2, wherein the cache request includes information relating to consideration for caching a database object by a computer** (column 8, lines 55 – 60: "The request from the cache 608, 610 to the master system 602, 604 can also specify the maximum number of events to return. Limiting the number of events is important because the cache may use a synchronization thread that allows its cache manager to process only a few events during each pass, thereby allowing CPU use by other processes.").

With respect to dependent claim 9, Draper teaches **[t]he distributed database system according to Claim 1,**  
**wherein the topology information further correlates an identifier for a computer, in which a database object is cached, with a database object identifier** (necessary for effecting the division of tasks between caches described in column 3, lines 13 – 16: "one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.");

and

**said topology administration server comprises:**

**a receiver for cache-completed information, which receives cache-completed information, which is information indicating caching of the database object to the computer** (necessary for effecting the division of tasks between caches described in column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”),

**a cache updating unit for topology information, which updates the cache-completed information of topology information stored in the storage for topology information to the current status based on the cache-completed information received by the receiver for cache-completed information** (column 1, lines 56 – 59: “One synchronization method sends a list of cached database object identifiers and corresponding timestamps or sequence numbers from the caching node to a master node which holds a master replica.”).

With respect to dependent claim 10, Draper teaches **[t]he distributed database system according to Claim 9,**

**wherein said topology information correlates lock information relating to a lock, which is operated by a database object, with a database object identifier** (Draper365, column 22, lines 35 – 36: “The NdrOdLock() function explicitly adds an exclusive or shared lock to an object using the object's DOID.); and

**said topology administration server comprises:**  
**a receiver for lock-operation information, which receives the lock**  
**information, a lock updating unit for topology information, which updates lock**  
**information of topology information, which is stored in the storage for topology**  
**information, to the current status based on the lock information received by the**  
**receiver for lock-operation information (Draper771, column 5, lines 41 – 44: “To**  
**prevent inconsistencies, access to each replica is by way of a target database object**  
**lock that serializes updates to the replica, and the updates are applied atomically.”).**

With respect to dependent claim 11, Draper teaches **[t]he distributed database system according to Claim 9 or 10, having a plurality of said topology administration servers, wherein said topology administration server comprises:**  
**an exchanging unit for topology information, which exchanges topology information with the other topology administration server administrating the other administration domain communicable via network** (necessary for coordinating the two masters described in column 8, lines 3 – 5: “The system 600 includes a master system 602 denoted ‘A’ and a second master system 604 denoted ‘B’.”).

With respect to dependent claim 12, Draper teaches **[t]he distributed database system according to Claim 2 or 9, wherein said database administration apparatus comprises:**

**a transmitter for an update-operation instruction, which transmits an**

**update-operation instruction, which is an instruction for update-operation of a database object, to a client apparatus of a computer caching the database object upon executing the update-operation with respect to the database object held therein** (column 3, lines 1 – 4: “The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.”); and

**said computer comprises: a receiver for an update-operation instruction, which receives an update-operation instruction, and an update-operation unit for a database object, which updates the database object cached in the caching unit for a database object based on the update-operation instruction received by the receiver for an update-operation instruction** (column 3, lines 13 – 16: “one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.”).

With respect to dependent claim 13, Draper teaches **[t]he distributed database system according to Claim 2 or 9, wherein said database administration apparatus comprises:**

**a receiver for update-operation information, which receives update-operation information relating to the update-operation on a database object, an update-operation unit, which executes the update-operation on the database object held therein based on the update-operation information received by the receiver for update-operation information, and a transmitter for an update-**

**operation instruction, which transmits an update-operation instruction of a cached database object to a client apparatus of a computer caching the database object based on said update-operation information** (column 3, lines 1 – 4: "The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records."); and

**said computer comprises:**

**a transmitter for update-operation information, which transmits update-operation information, a receiver for an update-operation instruction, which transmits an update-operation instruction, and an update-operation unit for a database object, which updates the database object cached by the caching unit for a database object based on the update-operation instruction received by the receiver for an update-operation instruction** (column 3, lines 13 – 16: "one cache may add a data item to the cache each time an add event occurs, while another cache only changes the cache when a modify event occurs.").

With respect to dependent claim 14, Draper teaches **[t]he distributed database system according to Claim 1, which further comprises:**

**a journal administration server comprising:**

**a receiver for a journal, which receives a journal indicating an update on a database object administered by said database administration apparatus, storage for a journal, which stores a journal received by the receiver for a journal** (column

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5, lines 20 – 24: "Each data item 202 has an associated tag 204 (in alternative embodiments, only selected data items are tagged). Each tag 204 value corresponds to an event in the history of the associated data item 202, such as the most recent update to the data item 202."),

**a replay unit for a journal, which replays the journal stored by the storage for a journal, a storing unit for a snapshot, which stores a snapshot generated based on the journal replayed by said replay unit for a journal, and a recovery unit having a function for executing processes for recovery of a domain in failure from said snapshot upon suffering a domain failure** (column 5, lines 24 – 25: "The tags 204 may be designed to allow recovery of earlier versions of the data item 202."); and

**said database administration apparatus comprises:**

**a transmitter for a journal, which transmits the journal** (column 3, lines 1 – 4: "The index can be used to efficiently create a list of recent events, which can then be sent to a master node to obtain the information needed to update a local cache of database objects or records.") (column 5, lines 20 – 24: "Each data item 202 has an associated tag 204 (in alternative embodiments, only selected data items are tagged). Each tag 204 value corresponds to an event in the history of the associated data item 202, such as the most recent update to the data item 202.").

#### ***Contact Information***

The prior art made of record, listed on form PTO-892, and not relied upon, if any,

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is considered pertinent to the applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold A. Hotelling whose telephone number is (571) 270-1293. The examiner can normally be reached between 7:00 a.m. - 5:30 p.m. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones, can be reached at (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is (571) 270-2293.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Harold A. Hotelling  
Examiner  
Art Unit 2164

HAH/*[Signature]*  
September 5, 2007

OR

*C. Rones*  
CHARLES RONES  
SUPPLYING PATENT EXAMINER